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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,797	07/30/2003	David Chao Hua Wu	1875.4730000	9430

26111 7590 01/25/2007  
STERNE, KESSLER, GOLDSTEIN & FOX PLLC  
1100 NEW YORK AVENUE, N.W.  
WASHINGTON, DC 20005

EXAMINER
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DO, CHAT C

ART UNIT	PAPER NUMBER
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2193

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	01/25/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 01/25/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

fadkt@skgf.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/629,797	WU, DAVID CHAO HUA	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chat C. Do	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 October 2006 and 21 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-31 is/are pending in the application.
- 4a) Of the above claim(s) 26-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This communication is responsive to Amendment filed 10/20/2006 and Election/Restriction filed 12/21/2006.
2. Claims 21-31 are pending in this application. Claims 21, 26, and 31 are independent claims. In Amendment, claims 1-20 are cancelled and claims 21-31 are added. Elected claims 21-25 without prejudiced are acknowledged filed 12/21/2006. This Office Action is made final.

#### *Claim Rejections - 35 USC § 112*

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 21-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 21, the limitation "a third filter...to produce PCM signal" is unclear of how it is related to the rest of circuit. For examination purposes, the examiner considers the third filter receives the FM signal as input to produce the PCM signal.

Thus, claims 22-25 are also rejected for being dependent on the rejected based claim 21.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-25 are rejected under 35 U.S.C. 103(a) as being obvious over Wu et al. (U.S. Publication No. 2003/0162500) in view of Phillips et al. (U.S. 5,732,107).

Re claim 21, Wu et al. disclose in Figures 1 and 3 a system for producing a signal (e.g. abstract and output of Figure 3) comprising: a first filter configured to produce an input signal  $I(n)$  from a SAP signal (e.g. 320); a FM (e.g. 330-370) including: a second filter that generates a quadrature-phase signal  $Q(n)$  from the input signal  $I(n)$  (e.g. 330-360), a FM device configured to generate a FM signal  $FM(n)$  from the input signal  $I(n)$  and the quadrature-phase signal  $Q(n)$  (e.g. 370). Wu et al. fail to expressly disclose a third filter configured to produce the PCM signal. However, Phillips et al. disclose in Figure a third filter configured to produce the PCM signal (e.g. col. 19 lines 2-25). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention is made to add a third filter configured to produce the PCM signal as seen in Phillips et al. into Wu et al.'s invention because it would enable to transmit the signal to appropriate application (e.g. col. 3 lines 12-25).

Re claim 22, Wu et al. further disclose in Figures 1 and 3 the  $FM(n)$  signal is equals to  $[I(n)Q(n)-I(n)Q(n)]/(I^2(n)+Q^2(n))$  (e.g. paragraphs [0033-0036]).

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Re claim 23, Wu et al. further disclose in Figures 1 and 3 the SAP signal is a constant magnitude signal, a sine wave, or a cosine wave (e.g. expressions 1 and 2).

Re claim 24, Wu et al. further disclose in Figures 1 and 3 the first filter is a bandpass filter (e.g. BPF in 310 and 320 is bandpass filter).

Re claim 25, Wu et al. further disclose in Figures 1 and 3 the second filter is a Hilbert filter (e.g. 340).

### *Response to Arguments*

7. Applicant's arguments with respect to claims 21-25 have been considered but are moot in view of the new ground(s) of rejection.

a. The applicant mentioned in page 6 about an submitted IDS and requested for consideration upon next PTO communication.

The examiner respectfully submits that there is no record of IDS being submitted for consideration. The examiner urges the application to file the IDS form 1449 or PTO/SB/08 in the next response.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do  
Examiner  
Art Unit 2193

January 20, 2007

*Mary Stelman* *Primary Examiner*  
01.22.2007